

IN THE CLAIMS:

Please amend claims 1, 4, 17 and 21 as shown below, in which changes are indicated by strikethrough and/or underscoring. Also, please cancel claim 2 without prejudice, and without dedication or abandonment of the subject matter thereof.

1. (Presently amended) An analytical method of analyzing blood using near infrared spectroscopy, comprising the steps of:

(a) applying light having a wavelength of 700nm – 1100nm through a blood collection receptacle to a sample of the blood contained in the receptacle;

(b) detecting at least one of diffusely reflected light, ~~diffusely transmitted light and~~ diffusely transmitted and reflected light from the blood sample in the blood collection receptacle by an optical sensor to measure a near infrared absorption spectrum of the blood sample; and

(c) modifying the measured spectrum using a calibration equation which has been determined in advance from a spectrum measured using a receptacle with the same specifications as said blood collection receptacle and following the steps (a) and (b) relative to blood specimens with known object characteristics, thereby determining an object characteristic of the blood sample;

wherein light having a wavelength of 700nm – 1100nm is applied to a ceramic plate which is a reference material so as to obtain an intensity of the light transmitted through the ceramic plate as a reference value for measurements of said optical sensor involving said blood collection receptacle and said receptacle with the same specifications as said blood collection receptacle.

2. Cancelled

3. (Previously amended) The analytical method of analyzing blood according to claim 1, wherein the calibration equation is determined using a chemometrics technique selected from the group consisting of multiple linear regression (MLR), principal component regression (PCR) and PLS regression.

4. (Presently amended) An analytical apparatus for analyzing blood comprising:

a block provided with a housing portion for a translucent blood collection receptacle;
a near infrared apparatus provided with a spectroscope for dispersing near infrared light having a wavelength of 700nm – 1100nm from a light source or from a sample of blood contained in the blood collection receptacle and an optical sensor for detecting the near infrared light;

light conduction means for conducting the near infrared light emitted from the light source or the spectroscope to the blood collection receptacle within the housing portion and for conducting, directly or through the spectroscope, at least one of diffusely reflected light, diffusely transmitted light and diffusely transmitted and reflected light from the blood sample within the blood collection receptacle to the optical sensor; and

control means for outputting a measured spectrum of the blood sample to the near infrared apparatus and for modifying the measured spectrum using a calibration equation which has been determined in advance from a spectrum measured using the apparatus, a receptacle with the same specifications as said blood collection receptacle and blood specimens with known object characteristics, for thereby computing an object characteristic of the blood sample; and

a ceramic plate, as a reference material, to which said near infrared apparatus applies light having a wavelength of 700nm – 1100nm so as to obtain the intensity of the light transmitted through the ceramic plate as a reference value for measurements of said optical sensor involving

said blood collection receptacle and said receptacle with the same specifications as said blood collection receptacle.

5. (Previously amended) The analytical apparatus for analyzing blood according to claim 4, wherein a white light source is used as the light source, and a diode array is used as the optical sensor.

6. (Previously amended) The analytical apparatus for analyzing blood according to claim 4, wherein monochromatic near infrared light is used as the light source, and a silicon detector or a lead sulfide detector is used as the optical sensor.

7. (Previously amended) The analytical apparatus for analyzing blood according to claim 4, wherein the light conduction means comprises an optical fiber.

8. (Previously amended) The analytical apparatus for analyzing blood according to claim 4, wherein the block is provided with a temperature control means for stabilizing the blood sample within the blood collection receptacle at a predetermined temperature.

9. (Previously added) The analytical apparatus for analyzing blood according to claim 4, wherein the calibration equation is determined in advance using the near infrared apparatus in relation to a plurality of blood specimens with different, known object characteristics.

10. (Previously added) The analytical apparatus for analyzing blood according to claim 4,

wherein the blood collection receptacle is a tube or bag.

11. (Previously added) The analytical apparatus for analyzing blood according to claim 4, wherein the light conduction means comprises an optical fiber bundle.

12. Cancelled.

13. (Previously added) The analytical method of analyzing blood according to claim 1, wherein the translucent blood collection receptacle is a tube or bag.

14. (Previously added) The analytical method of analyzing blood according to claim 1, wherein multiple different object characteristics of said blood sample are determined.

15. (Previously added) The analytical method of analyzing blood according to claim 14, wherein said multiple different object characteristics of said blood sample include chemical components and/or physiochemical characteristics.

16. (Previously added) The analytical method of analyzing blood according to claim 14, wherein said multiple different object characteristics of said blood sample include red blood cells, hematocrit, hemoglobin, total protein, total cholesterol and sugar.

17. (Presently amended) The analytical method of analyzing blood according to claim 1, wherein an optical path length for said blood ~~sample~~ collection receptacle is 1-2 cm.

18. (Previously added) The analytical apparatus for analyzing blood according to claim 4,

wherein multiple different object characteristics of said blood sample are computed by said control means.

19. (Previously added) The analytical apparatus for analyzing blood according to claim 18, wherein said multiple different object characteristics of said blood sample include chemical components and/or physiochemical characteristics.

20. (Previously added) The analytical apparatus for analyzing blood according to claim 18, wherein said multiple different object characteristics of said blood sample include red blood cells, hematocrit, hemoglobin, total protein, total cholesterol and sugar.

21. (Presently amended) The analytical apparatus for analyzing blood according to claim 4, wherein an optical path length for said blood ~~sample~~ collection receptacle is 1-2 cm.